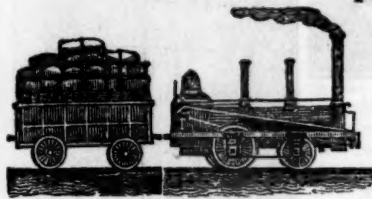


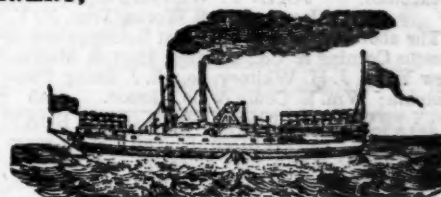
AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY,

AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

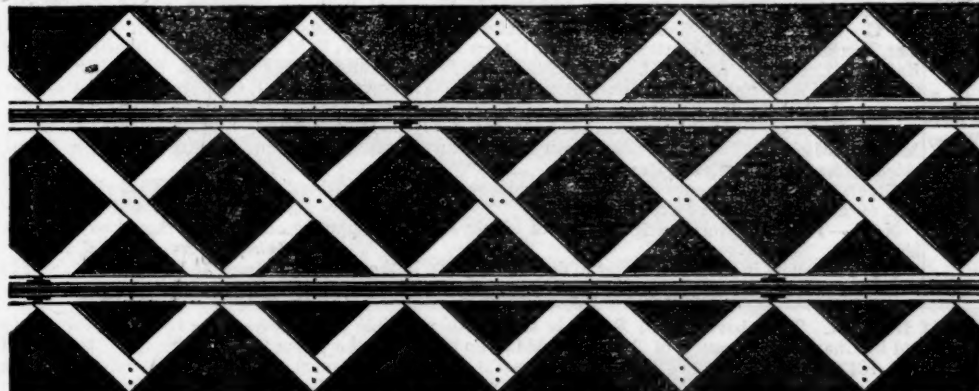
SECOND QUARTO SERIES, VOL. II, No. 5;

SATURDAY, JANUARY 31, 1846.

[WHOLE No. 501, VOL. XIX.]

W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make survey estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description. He will also act as agent for the sale of machinery, and of patent rights for improvements to public works.

HERRON'S PATENT AMERICAN RAILWAY TRACK,



As seen stripped of the top ballasting

HERRON'S IMPROVEMENTS IN RAILWAY Superstructure effect a large aggregate saving in the working expenses, and maintenance of railways, compared with the best tracks in use. This saving is effected—1st, Directly by the amount of the increased load that will be hauled by a locomotive, owing to the superior evenness of surface, of line and of joint. This gain alone may amount to 20 per cent. on the usual load of an engine.—2d, In consequence of the thorough combination, bracing, and large bearing surface of this track, it will be maintained in a better condition than any other track in use, at about one-third the expense.—3d, As action and reaction are equal, a corresponding saving of about two-thirds will be effected in the wear and tear of the engines and cars, by the even surface and elastic structure of the track.—4th, The great security to life, and less liability to accident or damage, should the engine or cars be thrown off the rails.—5th, The absence of jar and vibration, that shake down retaining walls, embankments and bridges.—6th, The great advantage of the high speed that may be safely attained, with ease of motion, reduction of noise, and consequently increased comfort to the traveller.—7th, The really permanent and perfect character of the Way, insuring regularity of transit. To which may be added the great increase of travel, that would be induced by the foregoing qualities to augment the revenue of the railroad.

The cost of the Patent track will depend on the quantity and cost of iron and other materials; but it will not exceed, even including the preservation of the timber, the average cost of the tracks on our principal railroads. Generally, the timber structure, fastenings and workmanship, exclusive of the cost of the iron rails, will be from \$2,300 to \$4,000 per mile. On this structure, rails of from 40 to 50 lbs. per yard, will be equal in effect to

60 and 70 lbs. rails laid in the usual way. The proprietors of a road, furnishing approved materials in the first instance, the undersigned will construct the track on his plan in the most perfect manner, with recent improvements, for one thousand dollars per mile. And he will farther contract to maintain said track for the period of ten years, furnishing such preserved timber and iron fastenings as may be required, and keeping said track in perfect adjustment, under any trade not exceeding 100,000 tons per annum, or its equivalent in passenger transportation, for *Two hundred dollars per mile per annum.** To insure the faithful performance of this contract, he will pledge one-fourth of the cost of construction, with the accruing interest thereon, regularly vested, until the completion of the contract. So that a company, by securing payment to the undersigned at the specified period, will have only \$750 per mile to pay for the workmanship on the track, without any charge being made for the use of the patent, the subsequent payments, for maintenance of way, and amount withheld, being made from the large margin of profits that will result from its use.

JAMES HERRON.
Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia.

* A general average of the repairs done on six of the most successful railroads in this country, for a period of from six to eight years' use has been found to exceed \$625 per mile per annum, exclusive of renewal of rails. But few roads in this country carry as much as 100,000 tons per annum. When a road exceeds that quantity, the repairs due to the additional tonnage, up to 200,000 tons, will be charged at one mill per ton; over the latter, and not exceeding 300,000 tons, nine-tenths of a mill, etc. Where there are two tracks to maintain, a large reduction upon these rates will be made.

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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One page per annum.....	\$125 00
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TROY IRON AND NAIL FACTORY, H. Burden, Agent. (See Adv.)
ROGERS, KETCHUM AND GROSVENOR, Patterson, N. J. (See Adv.)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (See Adv.)
NORRIS, BROTHERS, Philadelphia Pa. (See Adv.)
KITE'S Patent Safety Beam. (See Adv.)
FRENCH & BAIRD, Philadelphia, Pa. (See Adv.)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (See Adv.)
ROSS WINANS, Baltimore, Md.
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PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

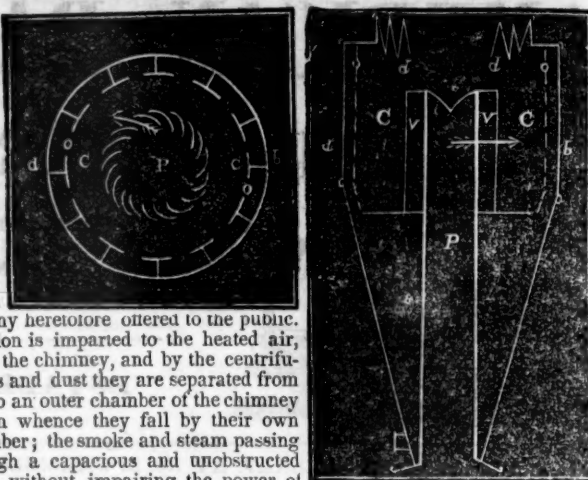
These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. McKee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. Philadelphia, Pa., April 6, 1844. ja45

*** The letters in the figures refer to the article given in the Journal of June, 1844.

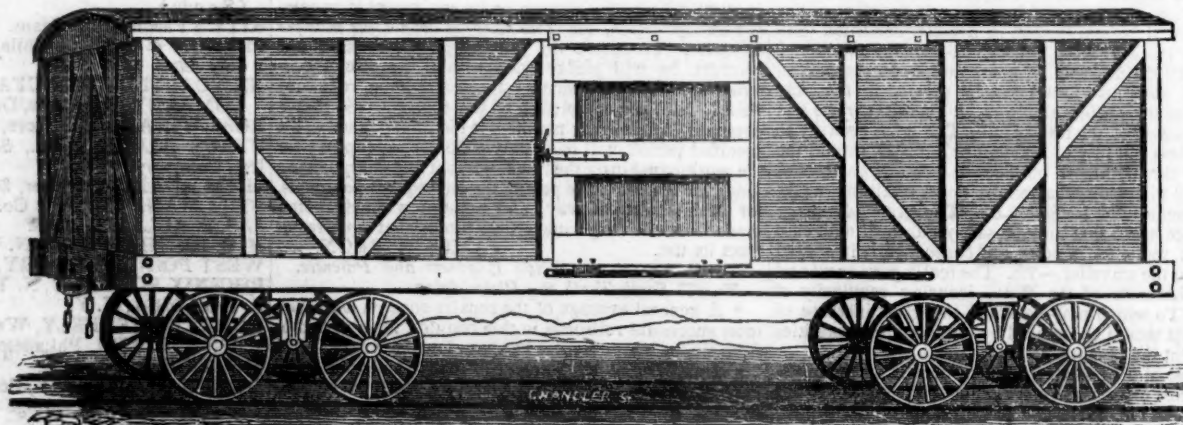


BENTLEY'S PATENT TUBULAR STEAM BOILER. The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

The article is complete in itself, occupies but little space, is perfectly portable, and requires no brick work, not even to stand upon. It is valuable not only in the saving of time and labor, but in the economy of fuel, as it has been ascertained by accurate measurement, that the saving in that article is fully two-thirds over other methods heretofore in use. They are now for the first time introduced into New York and Boston by the subscriber, who has the exclusive right for the New England states, New York and New Jersey, and are manufactured by

CURTIS & RANDALL, Boston; and by
FORCE, GREEN & CO. New York.

DAVENPORT & BRIDGES' CAR WORKS.



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS. Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern, and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All order punctually executed and forwarded to any part of the country. Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.

RAILROAD IRON AND LOCOMOTIVE
Tyres imported to order and constantly on hand
by **A. & G. RALSTON**
Mar. 20th 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING
Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
President of the Newcastle Manuf. Co.

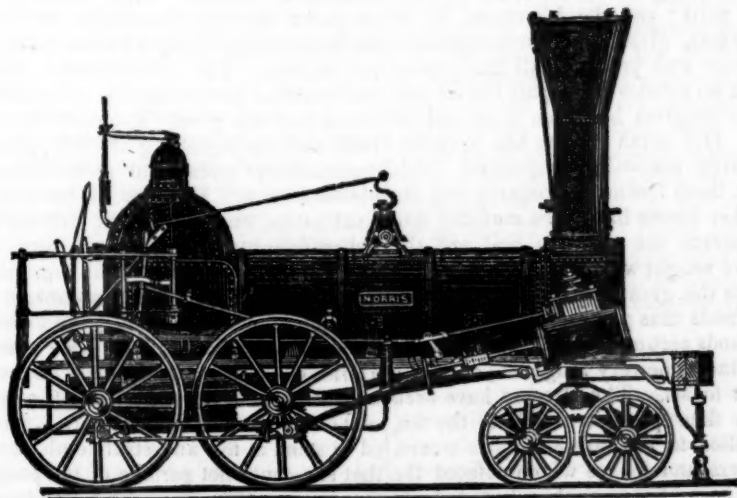
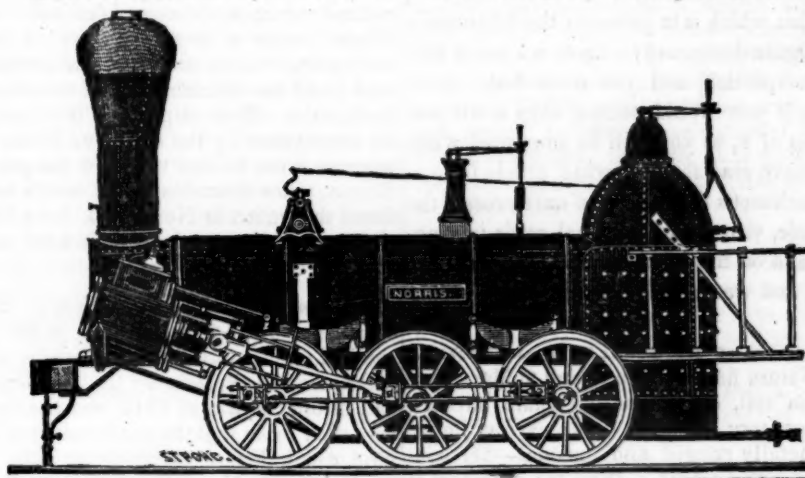
CUSHMAN'S COMPOUND IRON RAILS.
etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent* to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of improving their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, Civil Engineer,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applications must be post paid.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
"	2,	14	" " " × 24 " "
"	3,	14½	" " " × 20 " "
"	4,	12½	" " " × 20 " "
"	5,	11½	" " " × 20 " "
"	6,	10½	" " " × 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 4 ft in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets, PHILADELPHIA.

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.

WILLIAM YOUNG,

President.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Biluminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years the coal will not cost more than \$1 to \$1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, Civil Engineer,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to **HENRY ANDREWS**, 48 State st., or to **CURTIS, LEAVENS & CO.**, 106 State st., Boston, or to **A. & G. RALSTON & Co.**, Philadelphia.

CYRUS ALGER & CO., South Boston Iron Company.

Massachusetts and her Railroads.

We find in "Hunt's Merchants' Magazine," for January, an article on the "Progress of Railroads in Massachusetts," which may be read with advantage by those interested in the advancement of the system; and as that valuable work may not reach all of our readers, we give it entire, with the remark that those who read *this*, will be very likely to look with some interest, for that which is promised in a future number.

Would not this article, if widely circulated in our own noble city, arouse those who have been prospered, and are so fortunate as to own the property which would be so largely benefitted by an extensive system of railroads, to a *wise and energetic action*? The truth is, that the people here appreciate so highly their *natural* advantages, and consider them so far beyond competition, that they have felt safe to rest quietly; or, to adopt an emphatic phrase of one of the greatest statesmen of the age, upon another important question, to pursue "a masterly inactivity," while our sister city, which, in 1830 contained only 81,500 inhabitants, and its valuation was only \$59,586,000, has advanced with almost unparalleled rapidity—her population in 1845 being 155,000, and her valuation, \$135,948,900, or an increase of the former equal to 90, and of the latter equal to 128 per cent. in 15 years.

It is *quite* time for New York capitalists, as well as for New York merchants and business men of small means, to be aroused to the subject.

A good beginning has been made. The late effort in favor of the New York and Erie railroad, shows what a few spirited and liberal minded men *can* do, when they undertake with a determination to succeed; even when the great capitalists and owners of real estate, who, more than *any other* class, are to be permanently benefitted by such works, give the cold shoulder to, and even ridicule those who, with less money, have more public spirit, more disinterested liberality, and more good sense. But the ice has been broken, and the tendency is onward, therefore *now* is the time for New York to come forward, and enter the lists with Boston, in a fair, honorable competition for the business of the north and west; which must, at no distant day, take its departure from *Burlington*, (*Vt.*) for a seaport. What say the citizens of New York? Shall it go to Boston by the *Central and Connecticut river valley* route? or by the way of *Rutland* and the *Fitchburg* route, which is sure to be constructed? or still by *Rutland* and *Bennington* to *Pittsfield*, and thence to Boston by that *noble* work, the

Western—or, as the *union* road is to be termed, the *BOSTON AND ALBANY* road? or will you, citizens of New York, come forward and construct the *very best* road in the country, to connect this city with the last mentioned road near Stockbridge? and *then* aid in constructing a good road from North Adams, about 75 miles, to Rutland—that from Pittsfield to North Adams, 18½ miles, is now under contract, and that from Rutland to Burlington will, we doubt not, be constructed immediately, by the people along the line, who have made the best country subscription *ever* made in this country, on a line of equal extent—and thus come in for a share—the *lion's* share if you can—of the rich business of western Vermont, Canada, and that which is to pass over the Champlain and Ogdensburg road? Here is a noble field for competition, and you must *bestir* yourselves if you would secure, even a fair proportion of it, as you will be convinced when you have read the following article from a Massachusetts director, who once crossed the Atlantic, visited the principal roads in England and on the continent, wrote a sketch of them, and was again at his post in about sixty days.

"Progress of Railroads in Massachusetts.

"Nature has not been liberal to Massachusetts in soil, climate or navigable streams. Her territory, confined within narrow limits, is generally rugged and unequal—her winters long and severe. With the exception of the Merrimac, no great rivers have their outlets in her ports; and the Merrimac, by its bars and rapids, gives little encouragement to navigation; and yet with all these drawbacks, with no articles for export but ice and granite, her progress has been rapid and astonishing. Her harsh climate has invigorated her hardy sons—her ungrateful fields have given them lessons of frugality and enterprise—her forests have been moulded into ships to pursue the cod, the seal and the whale, have sought wealth in foreign climes, and become the great carriers of the union. With the funds thus gathered on the deep, or in richer lands accumulating in frugal hands, they have made the very roughness of nature subservient to art. The streams have been arrested in their precipitous fall to the sea, and compelled to toil, to spin and to weave. The boulders and ledges which defaced the fields have been lifted from their beds to build the foundations of factories, or to line the wells and cellars of a growing population, imparting to her fields the fertility originally denied by nature.

"But commerce and art demand easy communication, and so essential has Massachusetts deemed it to its progress, that she has bent herself to supply the absence of navigable waters. Commencing with a noble system of town and country roads, she early embarked in turnpikes, diverging in all directions from her metropolis; coaches and

wagons were soon in motion, connecting her with the interior, and Boston became distinguished for lines of stages, unrivalled in speed and comfort, throughout the union. But a new agent began to exert a mighty influence. The genius of Fulton gave to the water an ascendancy over the land, and the fast coach and the slow wagon were vanquished by the steamboat. Armed with the power of steam, New York made the East and the North rivers the arteries of commerce, and extending these great routes by navigable canals, she grasped not only the west, with Vermont and Canada on the north, but pierced the very heart of Massachusetts, pushing her improvements up the valleys of the Connecticut, and the Blackstone, to Springfield and Northampton, and even to Worcester, but forty miles west of Boston. The steamboat, in alliance with the canals, running down the natural watercourses, seemed destined to make Massachusetts a mere tributary; a vortex was opened whose attraction was irresistible; how could the manufacturer or the artisan of the interior afford to pay five cents per mile for conveyance by the coach, or fifteen cents per mile a ton for the transit of his goods to Boston, when steamboats and canals had reduced the transit to New York from fifty to eighty per cent., and made her the eastern outlet of the prolific west?

"Massachusetts had tried canals in advance of all the states; she was first in the race; she had surmounted the summit between the Merrimac and Boston, by the Middlesex canal, before the war of 1812, and she remembers with pride that the commissioners of the Erie canal, before commencing that great work, came to Massachusetts to learn the rudiments of canalizing. But canals were not adapted to the rugged surface of the state from the intervening of ridges between Boston and the interior. The manufacturer, too, could poorly await for the melting of a channel ice-bound half the year. Between the close of 1825 and the beginning of 1831, gloom and despondency seemed to settle down upon Massachusetts. Her sons left her to build up rival states and cities, and her fairest and richest daughters were courted away to grace more prosperous lands. The grass began to invade the wharves and pavements of her commercial centre, and the paint to desert the fronts of her villages; her pride was in the glories of the past, and in these she will ever be rich—not in the achievements of the present or the promise of the future. She seemed to stand at the ancestral tomb, sorrowing that she could not partake of the progress of the age, or to be dropping a tear beside the old hive as it grew yearly darker, or crumbled away, while swam after swam left it for sunnier skies. But her spirit, though chilled, was not subdued; a new era was at hand; art was preparing for another bound; the east was about to requite the west for the discoveries of Fulton, and to make steam more powerful on land than he had made it on the water. A star, the presage of future progress, broke forth in the east when Robert Stephenson applied the modern locomotive to the rail, and gave to England and the world

the finished railroad. The noble viaduct which spans the Tyne, at Newcastle, on the main route from London to Edinburgh, is soon to bear a costly statue dedicated to the great genius of modern times—to the master-spirit who is revolutionizing the whole intercourse of the world; and Massachusetts owes him a statue also for his discovery, which, more than aught else in modern times, makes her what she is, and is to be.

"So chilled was her spirit by the adverse current from 1825 to 1831, that she could scarcely see, in the twinkling star rising beyond the ocean, the beacon that was to light her onward. Wedded to the systems of the past, she could not realize that men and merchandize were to be whirled through her granite hills and deep ravines, winter and summer, regardless of frost and snow; and those who first ventured to name the fire-horse and the rail in her streets, journals and legislative halls, encountered the smile of derision, and the name of visionaries and enthusiasts. There are those still on the stage who remember the obscure chamber and studied privacy in which the first measures were concerted to enlighten the community. The glowing zeal of Allen, who saw in advance 'a car from each town join the train as the caravan came along,' the enlarged intellect of Sedgwick, and keen forecast of Degrand, could not shield them from the shafts of ridicule. The transition from darkness to light was too sudden, the mental eye could not, for months, accustom itself to the new field of vision.

"But the incredulity of Massachusetts had its prototype in England, as we learn from the lips of Robert Stephenson himself. When he went to London, as the engineer of the Liverpool and Manchester railway, to obtain a charter, he was cautioned as to his testimony. 'Be sure,' said the counsel, 'when you testify before the committee, not to say your locomotive will make more than ten miles per hour. I know you honestly believe you can attain fifteen, but the public are not prepared for it, and will not believe it, and we may be laughed out of parliament.' Stephenson went before the committee; he proved his case, and claimed a speed for his machine of ten miles per hour, but when the opposing counsel asked him, in his cross examination, with a significant smile, 'do you not believe you can run this fire-horse of yours even twenty, or five and twenty miles an hour?' the conscientious man of science admitted the fact, and the dangerous admission of but half of what he accomplished, startled the committee and nearly lost him the case. The success of the Liverpool and Manchester lines, however, was soon appreciated, and first effort, and one of the first lines finished in Massachusetts at once entered the field. Her America, was the Quincy railroad; then followed the Worcester; the Lowell and the Providence opened in 1834-5; then the Easton, Boston and Maine, Western, Nashua, Norwich and Worcester, Taunton, New Bedford, Fitchburg, Old Colony, and a network of railroads now in progress, overspreading the entire surface of the state, so widely dis-

seminated that ere many months have elapsed few points will be found in the old bay state, more than one hour's ride from the cars.

"The railroad system of Massachusetts has made such progress that it connects her great seaport not only with Albany and Lake Erie, but also with the principal towns of all the New England states, save Vermont, and is rapidly advancing across Vermont, via Windsor, Montpelier and Burlington, to Lake Champlain, northern New York and Canada. Under the mighty impetus thus given, the march of Massachusetts has been onward; manufactures, agriculture, commerce and the arts have flourished; property has advanced in value; the cost of transit has fallen; population has been retained and drawn in from other states, and Boston, the commercial capital, is pressing onward with renewed vigor. In 1830, the population of Boston and the immediate suburbs, Charlestown, Cambridge, and Roxbury was, by the census, 81,500; in 1845, by the census, it is 155,000, showing a gain of 73,500, equal to 90 per cent. in fifteen years. In 1830, the valuation of Boston was \$59,586,000; in 1845, it is \$135,948,700, showing a gain of \$76,263,700, or equal to 128 per cent.

"The progress of the state itself, although not as rapid as that of Boston, has been striking also. In nearly all directions new structures meet the eye; value has been given to forests, quarries, mill sites, and produce in the interior, and it is safe to predict that the census of 1850 will give to the state a population of 1,000,000, and a valuation of \$500,000,000, and to Boston and its suburbs a population of 200,000, and a valuation of \$200,000,000. It would not be just, however, to ascribe, all this to the railroad system; a part is doubtless due to commerce, manufactures and the fisheries; but the improved system of communication has given to them a vast impulse, and they have exerted a powerful influence on the system itself. Tusserene, in his report on the Belgium railroads, informs us that the tonnage of arrivals and departures increased 50 per cent. in two years at Antwerp, and 30 per cent. in one year at Ostend, on the completion of single lines of railways. If single lines have done so much, how much may be ascribed to seven distinct lines leading from Boston?

"*Character of the Massachusetts Railroads.*—The art of constructing railroads has been and still is progressive. At the outset it was thought essential to secure the most favorable gradients, and great expenses were incurred to reduce them below 30 feet to the mile on the Worcester and Lowell railroads. Deep trenches were dug and filled with broken stone for foundations, and stone sills, or sleepers, were introduced at great cost on one of the lines. The early engines were of moderate power, but were soon made more efficient and the improvement of motive power obviated most of the objections to higher gradients, and on some of the modern lines gradients of forty, sixty, and even eighty-three feet to the mile have been introduced, and in practice. Thus far, roads with gradients of forty feet, have been run as cheaply as those

more level. Surface roads conforming to the undulations of the country are thus constructed, and the absence of deep cuts and embankments exposed to the action of the elements, lightens their burthen of repairs.—Most of our lines have single tracks, and for these the roadbed is usually formed twenty-four feet wide in the cuts, and fifteen on the embankments. Five rods is the usual width of the surface taken for a road, and the fences are now constructed by the companies. In place of broken stone, a bed of gravel or sand well elevated above the drains, is now generally adopted as a foundation; all clay is removed, and water, the great enemy of railroads, courted away by a careful system of drainage. The stone sills, although at first thought most durable, have been found liable to break, and more costly and less elastic than wood. To avoid a jar, the blacksmith places his anvil on wood, and such is the jar on stone foundations, that the wear of cars and engines, both in Europe and America, has been diminished by substituting wood for stone. The rails are now generally laid on sleepers, or cross ties, averaging seven feet by eight to twelve inches, and hewn on two sides, beneath which are hemlock sub-sills. The second growth chestnut has been found most durable for ties, and the most approved distance is two feet six inches from sleeper to sleeper. Across these are placed the rails; these are rolled iron, averaging 18 feet in length, and weighing usually 56 to 60 lbs. per yard. The pattern in most general use has a flat base, with a flat or rounded head; the base rests on the sleeper, and is attached to it by spikes with heads lapping on the rail, and the ends of the rail are connected and confined by clasp chairs of iron. At the outset, rails of various patterns were adopted. On the Worcester, a light edge rail of 39 lbs. to the yard was used, but was found inadequate, and which has been partially replaced with a rail of 60 lbs. to the yard. On the Lowell, the fish-belly rail of 35 lbs. to the yard has been tried, condemned, and replaced by one of 60, but as yet no good rails of the modern pattern and size have given indications of failure. A few of indifferent iron, whose upper surface had been rolled too thin may have occasionally split at the edge, but in other particulars even ten years' use seems to have made little or no impression, and the problem is still unsolved, how long will they endure?

"The engines now in use, and the proximity of the sleepers, favor the endurance. In England, ten to twelve thousand lbs. weight is often thrown upon a driving wheel, but in Massachusetts eight thousand pounds is the maximum, and on many lines the average is from five to seven thousand pounds only. With cautious use, a long duration, and freedom from repairs may be anticipated for the best rails. The plate rail has received little or no countenance in Massachusetts. Its insecurity and instability—the inequality of surface which attends its use—the loss of speed and diminution of power which it entails, and extra cost of maintenance, which must exceed the interest on the extra cost of a heavy

rail, have deterred directors and engineers from adopting it. As the first president of the Western railroad once happily expressed it, 'he would not have for a railroad a hoop tacked to a lath.' The only specimen in Massachusetts is the upper section of the Housatonic line, which runs in from Connecticut, and a new association is preparing to replace it with a heavy rail. The success and popularity of the system may be ascribed in a great degree to the choice of the rail.

"Cost of Management.—When the Chevalier de Gerstner visited the United States in 1838, the average cost through the union of running a train, was reported by him to be one dollar per mile run. In 1840, Professor Vignolles, an eminent English engineer, in his report to the British association, makes, as the result of a careful analysis of many English lines, an average cost of three shillings, or 72 cents per mile. In Massachusetts the average is not far from 65 cents per mile, while three of the more recent lines have actually run for the last two years, with a large traffic, at less than 40 cents per train a mile, and in all the lines the average size of the trains has greatly increased in addition. The first engines on the Liverpool and Manchester line, from which our earliest patterns were copied, are stated in the report of Teisserenc to have run but seven thousand miles each year, at a cost of £400 for repairs, or 29 cts. per mile run. The Boston engines of the present day, with six to eight wheels, four-fold the tractive power, and far lighter on the rail, perform with ease twenty-eight thousand miles a year, at a cost for repairs of three cents per mile run. In the wear of cars the improved axles, chilled wheels, the trucks and elongated frames, soft metal boxes for the journals, and springs beneath and between the cars, have effected an almost equal improvement. The training and discipline of operatives, establishment of inflexible rules, arrangement of depots, increase of reserved stock of engines and cars, judicious purchase and preparation of fuel, improved rails and adjustment of track, and increase of traffic, have all tended to reduce the cost of management, and it may be safely stated that the cost of conducting the business has been reduced more than fifty per cent.

In the printed report of the directors of the Boston and Worcester railroad company,* dated April, 1840, it is stated that the cost of transporting a ton between Worcester and Boston, including loading and unloading, was, in 1835, \$2 33, and the number of tons carried, 9,359; in 1839, it was \$1 94, and the number of tons carried, 29,108. In 1844, the Worcester company, in a case with the Western company as to tolls, claimed that the cost, in 1843, was \$1 11 per ton, amount carried, 88,324 tons; but the Western company would concede but 57 cents per ton, objecting to large items of deterioration and repairs, as belonging to prior years. The medium between them is 88 cents per ton, doubt-

* In 1845, the accounts of the Fitchburg railroad company indicate that the cost of transporting freight, exclusive of loading and unloading, will be less than one cent per ton a mile.

less not far from the actual cost, which continues to decline with the increase of traffic. The cost on the Fitchburg is materially less. The modern lines, with superior roadbeds and rails, improved engines and cars, and less outlay on cuts and embankments, have, of course, the advantage in the race; but the managers of the old lines are generally aware that their policy is like that of the factories, 'to work out the old and work in the new,' and to keep pace with the progress of events; and their first choice of routes, and the business concentrated on their lines by an earlier start, aid them in their efforts.

"Already railroads have decided advantages over canals in the monopoly of mails, passengers, and the business of six months of winter. Canals in a long series of years have reached, or nearly attained, their highest point of perfection. Railroads, on the contrary, are yet in their infancy, and yet susceptible of improvement; have an indefinite capacity for trains, and with each increase of trains the cost of transit diminishes.* A great further reduction in the cost of transportation by railroads in Massachusetts may be relied upon as certain.

"Increase of Traffic.—The ratio of increase on the lines of Massachusetts, has kept pace with the extension of the system. At a reduction of charges, and a diminution of cost, the business has doubled at least once in eight years, and this increase promises to be progressive. Occasionally, a disastrous year, an error in policy, or a rival line, causes a temporary reaction; but the vacuum is soon filled and the traffic again overflows. The question most frequently discussed by directors is, 'how many new cars and engines shall we order?' and 'how shall we enlarge our depots?' At first, two or three acres were thought ample for a first class depot; a few years after this, the author was thought extravagant in advocating twenty for the Western and Fitchburg lines. The question now is, 'will twenty be sufficient?' The London and York propose fifty for a metropolitan depot; but when we consider the result produced by the combined effects of reduced charges, extension lines and the growth of the country, a liberal provision for depot grounds will be found most judicious. Our commercial cities provide extensive water fronts, miles of stores, docks, piers and levees for the reception of navigation: and when railroads are to receive and deliver, as they now do annually at Boston, half a million of tons, and the ratio of increase is ascertained, space must be provided.

"The Policy of Massachusetts in her Charters.—The great question of the Warren and

* With respect to the repairs of the road and track, the annual average cost in Massachusetts, has been less than \$400 per mile of railroad, which is considerably less than the average annual repairs of the Erie canal; as the principal part of the repairs is independent of the amount of traffic, consisting in renewal of culverts, bridges, sleepers, embankments and clearing the cuts, but a trifling amount of repairs will fall on an increase of traffic.

In 1839, the entire expense of repairs, inclusive of supervision, on the New York canals, were \$421,678 90, an average per mile of \$658 87, losing not far from 26-100 per ton a mile, and the cost of freight not far from 90-100 of a cent per mile.

Charles river bridges, inspired Massachusetts with a salutary caution in granting her charters. The Charles river bridge claimed under a general grant of a toll for a long term of years, an exclusive right, which, if enforced, would have given the proprietors in 1844 a net income of \$65,000, or about one hundred and fifty per cent. per annum. This case was decided about the date of our earliest railroads. To secure the public, and obviate all questions for the future, Massachusetts has reserved to herself the right of reducing tolls, if the income exceeds ten per cent., and a right of purchase after twenty years, on payment of the principal and ten per cent. income, deducting the tolls received. England has been more liberal in her charters. In a country where money produces less than in Massachusetts, she allows the income to reach ten per cent. reserves the right to buy, but provides that in such event, she will, if the road earns ten per cent., pay therefor a capital that shall produce ten per cent. at twenty-five years' purchase, or at the rate of four per cent. per annum. She virtually stipulates to pay a premium of one hundred and fifty per cent. to each successful enterprise, while Massachusetts is to pay par and ten per cent. A successful stock, therefore, rises in England from one hundred to two hundred and fifty, while in Massachusetts it has in no case exceeded forty per cent. premium. But the stimulus in England is too great; it has apparently crazed the whole community, both male and female. In Massachusetts it is sufficient to enlist the wary capitalist, and the enterprising and spirited merchant, who expects an accession of trade as well as large dividends; it has created a race of engineers, managers and contractors, who look for business to branches and extension lines, some of whom embark largely in the new lines as proprietors, as well as contractors, and both directly and indirectly, impel the system onward.

"One topic remains untouched, which has occasioned much discussion on both sides of the Atlantic, particularly during years of depression, but it would be impossible to compress it within this article. It is a topic of deep interest. Mountains may be tunnelled or surmounted, deep rivers may be bridged, and remote regions united by iron bands, but tariffs of charges may be interposed, more impassable than mountains, streams and boundaries. An injurious tariff, if too high, may prohibit trade, or throw it on rival cities; or if too low, may undermine the prosperity of the improvement itself.

"The tendency of the rates has been rapidly downward, and with beneficial results, both in Massachusetts and in England; the reduction of the cost of transit at least one-half, demonstrates the power to carry with profit at half the original rates; reduced charges will open new fountains, but the charges still vary on the different lines, and the subject may be better discussed in a future number.*

E. H. D."

* The railroads of Massachusetts are eminently successful. The net income of 1845 will average nearly eight per cent., and the stocks average about ten per cent. above par.

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.	Total sums, in pounds, authorized to be raised by loan or mortgage.	Total sums, in pounds, expended at dates of latest balance sheets.	Cost of working in pounds for six months as stated in latest balance sheets.	Total earnings, in pounds, for six months as stated in latest balance sheets.	Dividend at last meeting.		Paid on share.	Value of share.	NEW AND PROPOSED RAILWAYS.		Share Capital.
							Per share.	Per cent. per annum.			Aberdeen.....	Barnsley Junction.....	
Arboath and Forfar.....	15	102,000	35,000	138,870	.....	.....	0 12 6	2 10 0	25	20	Birk. and Ches. Junction..	1,000,000
Birmingham and Gloucester.....	55	1,187,500	407,336	1,500,806	39,261	53,203	1 5 0	2 10 0	100	100	Bolt., Wigan and Liverpool	800,000	
Brandling Junction.....	23	161,700	365,470	481,452	.....	.....	.....	4 10 0	50	54	Caledonian.....	1,800,000
Bristol and Gloucester.....	37	400,000	211,000	657,825	.....	.....	.....	nihil.	30	59	Cambridge and Lincoln...	1,250,000
Chester and Birkenhead.....	14	750,000	143,170	518,989	5,856	13,148	0 10 0	2 0 0	50	60	Chatham and Portsmouth...	5,000,000	
Dublin and Drogheda.....	31	450,000	150,000	582,254	.....	.....	.....	nihil.	60	115	Chester and Wrexham.....	120,000
Dublin and Kingston.....	6	200,000	152,200	349,736	.....	.....	9 0 0	0 0 0	100	251	Churnet valley.....	1,800,000
Dundee and Arbroath.....	16	100,000	49,445	153,416	2,989	6,993	1 5 0	5 0 0	25	36	Direct Northern to York...	4,000,000	
Durham and Sunderland.....	18	169,350	124,055	270,392	9,889	17,702	.....	nihil.	50	25	Dublin and Belfast.....	950,000
East County and North and East.....	86	4,443,200	1,341,155	3,931,905	47,385	118,726	1 6 6	.....	45	57	Dundee and Perth.....	250,000
Edinburg and Glasgow.....	46	1,125,000	375,000	1,649,523	29,429	55,866	1 5 0	5 0 0	50	78	Edinburg and Northern...	800,000	
Glasgow, Paisley and Ayr.....	51	937,500	.....	1,071,258	12,446	36,736	1 5 0	5 0 0	50	72	Ely and Bedford.....	270,000
Glasgow, Paisley and Greenock.....	22	650,000	216,666	797,643	11,830	23,447	0 5 0	2 0 0	25	21	Glasgow, Dum. & Carlisle.	1,300,000	
Grand Junction.....	104	2,478,712	.....	2,503,671	84,309	195,080	5 0 0	10 0 0	100	239	Gt. South and West Ext...	1,200,000
Great North of England.....	45	969,000	581,017	1,307,487	12,201	36,189	0 6 0	6 0 0	100	230	Gt. Grimsby and Sheffield.	600,000	
Great Western.....	22	4,650,000	3,679,343	7,445,689	143,279	440,046	0 8 0	8 0 0	80	215	Harwich and E. coun. Jun.	160,000	
Hartlepool.....	15	438,000	155,540	719,205	.....	.....	.....	8 0 0	100	.....	Huddersfield & M. rl. & cl.	600,000
Leicester and Swannington.....	16	140,000	.....	140,000	2,207	6,317	1 5 0	5 0 0	50	.....	Kendal and Windermere...	125,000
Liverpool and Manchester.....	32	1,209,000	497,750	1,785,000	64,885	141,252	0 10 0	10 0 0	100	214	Leeds and Dewsbury.....	400,000	
Llanelli.....	27	200,000	44,000	221,624	.....	.....	1 0 0	2 0 0	87	.....	Leeds and Thirsk.....	900,000
London and Birmingham.....	20	6,874,976	1,928,845	6,614,005	96,413	456,997	5 0 0	10 0 0	100	245	Liv. Ormskirk and Preston	600,000	
London and Blackwall.....	3	804,000	266,000	1,768,851	15,978	23,870	0 3 0	1 10 0	16	10	London and Portsmouth...	1,750,000	
London and Brighton.....	56	1,935,000	705,000	2,637,753	30,490	130,156	1 10 0	6 0 0	50	77	London and York.....	5,000,000	
London and Croyden.....	8	550,000	229,000	761,885	7,583	10,545	0 8 0	4 0 0	14	23	Londonderry & Enniskillen	500,000	
London and Greenwich.....	31	759,383	233,300	1,040,930	15,193	28,933	.....	nihil.	13	11	Lynn and Ely.....	200,000
London and South Western.....	92	2,232,100	630,100	2,604,405	89,439	190,631	2 0 0	10 0 0	41	82	Manchester, Bury and Ross	300,000	
Manchester and Birmingham.....	31	2,100,000	690,586	1,923,699	15,397	58,162	1 0 0	5 0 0	40	62	Manchester and Buxton...	250,000	
Manchester and Bolton.....	10	778,100	197,730	773,743	8,585	21,140	2 0 0	4 10 0	93	169	Mullingar and Athlone...	.....
Manchester and Leeds and Hull.....	87	2,937,500	1,943,932	3,921,593	46,653	156,761	8 10 0	10 0 0	60	170	Newcastle and Berwick...	700,000	
Midland railway.....	179	5,158,900	1,719,630	6,279,838	75,227	276,129	3 0 0	6 0 0	100	192	Richmond & W. End Junc.	.....
Newcastle and Carlisle.....	61	878,240	188,563	1,135,669	26,499	46,745	0 5 0	5 0 0	100	113	Scottish Central.....	700,000	
Newcastle and Darlington.....	23	500,000	.....	405,728	.....	.....	1 0 0	8 0 0	21	56	Sheffield and Lincolnshire.	650,000
Newcastle and North Shields.....	7	150,000	153,876	309,629	8,943	18,466	6 9 0	50 69	.....	.....	Shrewsbury and Gd. Junc.	400,000
North Union.....	39	739,201	308,306	1,028,593	24,788	37,794	2 10 0	6 5 0	100	176	Shrew. Wolv. Dudley & B.	900,000	
Paris and Orleans.....	82	1,600,000	400,000	1,978,415	.....	.....	0 16 0	8 0 0	20	45	Trent Valley.....	900,000
Paris and Rouen.....	84	1,440,000	.....	.....	31,247	91,171	.....	8 0 0	20	40	West London Extension...	64,000
Preston and Wyre.....	19	830,000	179,852	355,161	4,191	7,066	4 0 0	50 32	.....	87	West Yorkshire.....	1,000,000
Sheffield and Manchester.....	19	1,150,000	311,759	951,455	11,895	14,876	.....	nihil.	87	135	Whitehaven and Maryport	100,000
South Eastern.....	88	2,996,000	1,530,277	3,464,172	69,288	139,042	3 1 4	33 48	.....	.....	FRENCH RAILWAYS.	
Taff Vale.....	30	465,000	195,000	595,089	9,115	22,692	1 17 7	3 15 0	100	104	Boulogne and Amiens....	1,500,000	
Ulster.....	25	519,150	20,000	348,626	5,401	13,856	0 15 0	5 1 8	32	52	Central of France.....	1,280,000	
Yarmouth and Norwich.....	20	187,500	62,500	230,036	5,186	10,098	1 0 0	5 0 0	20	29	Lyons and Avignon.....	2,400,000	
York and N. Mid. and Leeds and Selby	28	1,062,500	167,500	1,107,146	31,349	75,474	2 10 0	10 0 0	50	115	Orleans, Tours & Bordeaux	2,000,000	

ENGLISH STEAM AND MISCELLANEOUS COMPANIES.

Steam and Miscellaneous.						NAME OF COMPANY.		NAME OF COMPANY.					
NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.		Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Anglo Mexican Mint....	10,000	10	10	.....	15½	15½	Loughborough.....	70	142½	142½	70	1140	
Anti Dry Rot.....	10,000	.....	18½	.....	2	.....	Monmouthshire.....	2,409	100	100	10	160	160
Australian Trust Company	5,700	100	35	.....	34½	.....	Melton Mowbray.....	250	100	100	10	117	117
General Steam Navigation	20,000	15	14	10	27½	27	Mersey and Irwell.....	500	100	100	10		
Gt Western Steam Pa.....	.....	.....	100	.....	25	.....	Macclesfield.....	3,000	100	100	2½	15	15
Metropolitan Wood Pav..	15,000	10	6	5	6½	.....	Neath.....	247	100	100	17	365	365
Patent Elastic Pav.....	10,000	1	1	5	1½	.....	Oxford.....	1,786	100	100	30	505	
Peninsular and Oriental..	11,493	50	50	7	64½	65	Regents or Loncon.....	21,418	33½	33½	2½	25	25
Ditto.....	3,200	50	40	7	.....	.....	Shropshire.....	500	125	125	6	120	120
Polytechnic Institution.....	.....	.....	.....	6	.....	.....	Somerset coal.....	800	150	150	7½	123	123
Reversionary Int. Soc.....	5,387	100	100	4½	104	104	Stafford and Worcester.....	700	140	140	25	480	480
R. Mail Steam Packet.....	15,000	100	60	.....	36½	37	Shrewsbury.....	500	125	125	12	230	230
South Western Steam.....	4,000	25	5	.....	.....	.....	Stourbridge.....	300	145	145	14	360	360
Ship Owners' Towing.....	3,000	10	7½	10	15	.....	Stroudwater.....	200	150	150	19		
Thames Tunnel.....	4,000	50	50	.....	.....	.....	Swansea.....	533	100	100	15	240	240
University College.....	1,500	100	100	.....	.....	.....	Severn & Why & Rail Av.....	3,762	26½	26½	5½	30	30
							Trent and Mersey.....	2,600	50	50	65	495	
							Thames and Medway.....	8,149	19½	19½	.....	10	10
							Warwick and Birmingham.....	900	100	100	10½	167	
							Warwick and Napton.....	980	100	100	8½	122	
Canals.							Water Works.						
Ashby de la Zouch.....	1,432	113	av.	4	70	70	Birmingham.....	4,800	25	25	3½	28	28
Barnsley.....	720	100	100	14	180	180	East London.....	4,433	100	100	8	223	225
Birmingham, 1-16 share..	3,000	118½	79	10	150	160	Grand Junction.....	5,500	av.	41 2-3	7½	88	90
Do. and Liverpool Junction	4,000	160	100	.....	13½	13½	New River L. B. Ann.....	1,500	.....	.....	2½		
Coventry.....	500	100	100	20	365	365	Manchester and Salford.....	6,486	av.	30	8½	57	57
Cromford.....	460	do.	do.	24	250	250	Vauxhall, lt. S. London.....	1,000	100	5	55	55	
Derby.....	600	do.	do.	9	105	105	West Middlesex.....	8,294	av.	63½	6½	126	127
Erewash.....	231	do.	do.	32	440	440	Docks.						
Forth and Clyde.....	1,297	400½	40½	4	440	440	Commercial Dock.....	1,065	100	100	3	50	
Grand Junction.....	11,600	100	100	7	162	161½	East and West India.....	.....	sto.	.....	5½	137	
Grand Surrey.....	1,500	do.	do.	.....	20	.....	London.....	3,238,310	sto.	.....	4½	114½	115
Gloucester and Rerkley...	5,000	do.	do.	.....	8	8	St. Katharine.....	1,352,752	etc.	.....	5	116	171
Grantham.....	749	150	150	8	185	185	Southampton.....	7,000	50	50			
Lancaster.....	11,699	47½	47½	3	40	40							
Leeds and Liverpool.....	2,897	100	100	34	640	640							
Leicester.....	545	140	140	9	139	139							

AMERICAN RAILROADS.															
NAMES OF RAILROADS.		Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on share.	1843. Income.		Div. per cent.	1844. Income.		Div. per cent.	1845. Income.		Div. per cent.
							Gross.	Nett.		Gross.	Nett.		Gross.	Nett.	
Maine.	1 Portland, Saco and Portsmouth.	50	1,200,000				89,997	47,166	7	131,404	62,172	6			
N. Ham.	2 Concord.	35	750,000										12		
Mass.	3 Boston and Maine.	56	1,485,461				178,745	68,499	6	233,101	86,401	6½			
	4 Boston and Maine extension.	17½	455,703	unfin.											
	5 Boston and Lowell.	26	1,863,746				277,315	144,000	8	316,909	147,615	8			
	6 Boston and Providence.	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6			
	7 Boston and Worcester.	44	2,914,078				404,141	162,000	6	428,437	195,163	7½			
	8 Berkshire.	21	250,000	not stated				17,500	7	17,737					
	9 Charlestown branch.		280,260						13	34,654	13,971	5½			
	10 Eastern.	54	2,388,631				279,563	140,595	6	337,238	227,920	8			
	11 Fitchburg.	50	1,150,000	just op'n'd						42,759	26,835				
	12 Nashua and Lowell.	14½	380,000				84,079		8	94,688	34,944	10			
	13 New Bedford and Taunton.	20	430,962				50,671	24,000	6	64,998	24,000	6			
	14 Northampton and Springfield.		172,883	unfin.											
	15 Norwich and Worcester.	66	2,290,000	900,000	16,535	100	162,336	24,871		230,674	99,464	3			
	16 Old Colony.		87,820	unfin.											
	17 Stoughton branch.	4	63,075	unfin.											
	18 Taunton branch.	11	250,000					20,000	8	96,687	20,000	8			
	19 Vermont and Massachusetts.														
	20 West Stockbridge.	3	41,516	200		100						4			
	21 Western, (117 miles in Mass.,)	156	7,686,202	4,686,202	30,000		573,882	284,432		753,753	439,679	3			
	22 Worcester branch to Milbury.	3½	42,000												
	23 Housatonic, (10 months,)	74	1,244,123							150,000					
Conn.	24 Hartford and New Haven.	38	1,100,000	100,000	10,000	100						6			
	25 Hartford and Springfield.	25½	600,000	400,000	2,000	100									
	26 Stonington, (year ending 1st Sept.,)	48	2,600,000	650,000	13,000	100	113,889			154,724	79,845				
N. York.	27 Attica and Buffalo.	31	336,211				45,896	7,522		73,248	48,033				
	28 Auburn and Rochester.	78	1,796,342	200,000	14,000	100	189,693	112,000		237,667	152,007	6			
	29 Auburn and Syracuse.	26	766,657			133½	86,291	27,334		96,738	52,544	6			
	30 Buffalo and Niagara.	22	200,000		1,500										
	31 Erie, (446 miles,)		5,000,000												
	32 Erie, opened.	53						48,000		126,020	59,075				
	33 Harlem.	26	2,250,000	750,000	30,000					140,685	62,399				
	34 Hudson and Berkshire.	31	575,613		50					35,029	1,789				
	35 Long Island.	96	1,610,221	392,340	29,846					153,456	58,996				
	36 Mohawk and Hudson.	17	1,317,593	400,000	10,000	100	69,948	58,780		79,804	45,763				
	37 Saratoga and Schenectady.	22	303,658				42,242	3,000	1	34,666	8,455				
	38 Schenectady and Troy.	20½	640,800				28,043			32,646	6,365				
	39 Syracuse and Utica.	53	1,115,897	none.	16,000	62½	163,701	72,000		192,061	120,992	8			
	40 Tonawanda.	43	727,332				76,227			114,177	75,865	5			
	41 Troy and Greenbush.	6	180,000												
	42 Troy and Saratoga.	25	475,801				44,325	21,000		38,502	9,971	2½			
N. Jersey.	43 Utica and Schenectady.	78	2,168,165	none.	20,000	100	277,164	180,000	9	331,932	199,094	8			
	44 Camden and Amboy.	61	3,200,000				682,832	383,880		784,191	404,956				
	45 Elizabethtown and Somerville.	26	500,000												
	46 New Jersey.	34	2,000,000												
	47 Paterson.	16	500,000									6			
Penn.	48 Beaver Meadow.	26	1,000,000												
	49 Cumberland Valley.	46	1,250,000												
	50 Harrisburg and Lancaster.	36	860,000	645,929									77,538	9,988	
	51 Hazleton branch.	10	120,000												
	52 Little Schuylkill.	29	900,000												
	53 Blossburg and Corning.	40	600,000												
	54 Mauch Chunk.	9	100,000												
	55 Buck Mountain.	4	72,000												
	56 Minehill and Schuylkill Haven.	19½	396,117	25,000	7,019	50			12			12			
	57 Norristown.	20	800,000												
	58 Philadelphia and Trenton.	30	400,000												
	59 Pottsville and Danville.	29½	1,500,000												
	60 Reading.	94	9,457,570	7,447,570	40,200	50				597,613	343,511				
	61 Schuylkill valley.	10	1,000,000												
	62 Williamsport and Elmira.	25	400,000				20,000								
	63 Philadelphia and Baltimore.	93	4,400,000				43,043	200,000			210,000				
Delaw're	64 Frenchtown.	16	600,000												
Maryl'd	65 Baltimore and Ohio, (1st Oct.)	188	7,742,410	1,153,709			575,235	279,402		658,620	346,946		738,603	374,762	3
	66 Baltimore and Washington.	38	1,800,000				177,227	71,691		212,129	104,529		308,813	95,094	6
	67 Baltimore and Susquehanna.	58	3,000,000												
	68 Wrightsville, York and Gettysburg.	12½	500,000												
Virginia	69 Greenville and Roanoke.	18	284,433	37,544	2,000	100				25,368	6,074	3			
	70 Petersburg.	63	969,880	63,000	7,690	100				122,871	72,898	6			
	71 Portsmouth and Roanoke.	78½	1,454,171												
	72 Richmond, Fredericksb'g and Potomac.	76	800,000							185,243	85,688				
	73 Richmond and Petersburg.	22½	700,000												
	74 Winchester and Potomac.	32	500,000												
N. Car.	75 Raleigh and Gaston.	84½	1,360,000												
	76 Wilmington and Raleigh.	161	1,800,000									5			
S. Car.	77 South Carolina.	136	5,671,452		34,410	75									
	78 Columbia.	66					201,464	77,456		532,871	140,196				
Georgia	79 Central.	190½	2,591,723	440,000	20,510	100	227,532	93,190		328,425	180,704				
	80 Georgia.	147½	2,650,000				248,026	158,207		248,096	147,523				
	81 Montgomery and West Point.	89	500,000	170,000		100				35,000	15,000				
Kent'ky	82 Lexington and Ohio.	40	450,000												
Ohio.	83 Little Miami.	40	400,000												
	84 Mad river.	40	152,000												
Indiana	85 Madison and Indianapolis.	56	212,000	50,000			22,110	8,639	8	39,031	10,065	9½	24,984	3,280	
Canada.	86 Champlain and St. Lawrence.	15						12,000		58,000	24,000				

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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The Gauge Question.

This important question continues to occupy considerable attention in England. It appears to excite little interest elsewhere, and the rival parties are now making experiments under the observation of a "government commission on the guages," for the purpose, probably, of renewing the controversy before parliament, during the ensuing session.

A series of experiments were commenced, on the Great Western road, on the 16th December, in presence of the commissioners, Sir F. Smith, and Professors Barlow and Airey. The first experiment was made with the locomotive *Leon*, driven by Mr. Brunel and Mr. Gooch, C. E., with Mr. Bidder and Mr. Berkley, the champions of the narrow guage, on the platform, with eight carriages, six first and two second-class attached, weighted with iron, to a gross load of 81 tons 13 cwt., exclusive of engine and tender, which may be taken at 32 tons more, and equal to a train of 342 persons.

They left the first post beyond Paddington at six minutes past ten, with 24 gentlemen on board. The distance from Paddington to Didcot is 53 miles, and the distance from the first mile-post, 52 miles, was performed in 1 hour and 4 minutes, or at the rate of 51 miles an hour; and the return in 1 hour 14 minutes. The second day's trip from Paddington to Didcot, with seventy tons, was performed in 1 hour 24 minutes, and the up trip in 59 minutes.

Next comes the experiments on the great North-of-England line, between York and Darlington, 43 miles long, narrow guage, on the 30th December, in presence of Professors Barlow and Airey, of the commissioners; Messrs. Brunel, Saunders, and Seymour Clarke, of the broad guage; and Messrs. Hudson, Bidder, Gooch, Cabry, Harrison, Harding, and Berkley, of the narrow guage. The engine used was a new one, built by Mr. R. Stephenson, with six wheels, seven feet four inches high to the top of the boiler, with cylinders outside; it had been in use only about a week, in experimental trips; with a load of fifty tons only, or 20 tons lighter than the lightest load on the Great Western. They did not, however, succeed in accomplishing much over 40 miles an hour, or 43 miles in 1 hour, 13 minutes 53 seconds, which is greatly inferior to the results on the broad guage. These, however, are not fair results on either of them, as better time has been made, on other roads, and can be made on almost any road in England, than that upon the great North-of-England. We shall, however, give the two statements in our next number, and further accounts as they come out.

The Iron Trade.

We have received by the *Hibernia* our regular files of the London Railway and Mining Journals to the 3d inst. The Mining Journal of 6th December says, in relation to the iron trade, that the Glasgow pig-iron trade was very dull on the 2d, that several thousand tons were offered at 72s. 6d. cash, and 1000 tons were sold at that price, and the Glasgow quotations for that day were 70 to 72s. cash.

The London quotations on the 5th December were, bar £9 to £9 5s.; rails £12.

In France the price of iron is very high. "White cast metal" was sold on 29th November, in large quantities, for £7 5s. to £7 10s.; and £7 10s. and £7 15s. were offered for two other lots of 400,000 and 500,000 kilogrammes each, which were not received. The manufacturers of wrought iron had announced their intention of advancing the price from £16 to £16 10s.

In the same journal of the 13th, we find that the price of pig-iron had advanced; Scotch to from 75 to 80s., and Welsh to 77s. 6d., with purchasers. Rails continued at £12. The high prices continue in France.

Dec. 20th.—The manufacturers continue to ask 80 to 90s. for Scotch pig, which are, however, just now merely nominal quotations, as the trade is in the hands of speculators, who are offering for 72s. 6d., with very little doing, and rails have fallen a trifle, being quoted this week at £12 a £11 10s.

The Glasgow market on the 19th was very quiet, only a few sales, varying from 72s. 6d. cash, to 76s. The manufacturers, however, still ask 85 to 90s., and on the 23d, sales were made at 77s. 6d.; rails remaining the same in London on the 26th, as last week. In France, on the 18th, at St. Dizier, large lots brought £16 10s., and small lots brought £16 16s., though little was doing in Paris, as the merchants would not give £16.

Jan. 2d.—There has been very little change in the pig-iron trade of Glasgow for the month past, as will be seen by the following report from a Glasgow paper of 30th December, though the fluctuations have been very great during the year, varying from 57s. 6d. to 120s. Railway bars remain about the same as for several weeks past, the quotations £12 a £11 10s. being continued.

GLASGOW, Dec. 30.—There seems to be a very good feeling this week, speculators looking forward to the French legislature modifying their tariff regarding foreign iron. Cash transactions, however, have been very few. In the present state of our market, three or four thousand tons forced, for cash, would not command 70s., while, on the other hand, were as large a quantity wanted at once, 75s. would require to be paid. One of our largest makers has this week (or end of last week) made a contract with a house in town for 2,000 tons, at 80s., paying a small deposit, the iron to be delivered where required. The sellers were open for farther contracts at one shilling advance. The price we quote at 72s. 6d. It may be interesting, at the close of the year, to note some of the fluctuations which have taken place:—January, price 65s. to 70s.; February, 90s.; March, 120s. per ton. From this period till 1st June, prices gradually receded to 57s. 6d.; June, 80s.; July, 60s.; August, 85s.; September and October, 90s. to 97s. 6d. per ton. From that time it has gradually fallen to the present quotation of 72s. 6d. per ton.—*Glasgow Nat.*

It may, we think, be safely concluded that iron will be in good demand, especially for railways, and for ship-building, for some years, and that investments in its manufacture upon the most improved plans, will not only be safe but lucrative.

Hudson River N. York and Albany Railroad.

We had the pleasure, a few evenings since, of hearing Mr. Jervis read his report, in presence of a

large number of gentlemen interested in the river route of the railroad to Albany. We were late at the meeting, and therefore did not hear the first part of it; nor were we aware that copies of it were to be had at the meeting, or we should have obtained one. We have now, however, through the politeness of Mr. Jervis, a copy of it, and shall give it an early insertion in the Journal, as we have those which have preceded it from time to time, upon the same subject, viz: "a railroad between New York and Albany."

We have, for many years, advocated the construction of a railroad, of the best—the very best—kind, between the commercial and political capitals of the state, even when many of its present advocates laughed at the idea of its paying its working expenses—much less a dividend to its stockholders; but such has been the apathy—we might almost say the wilful blindness, and indifference of those in this city who were to be most benefitted by it—we mean the property holders and business men, that we have for the past few years almost ceased to refer to it, except to publish the reports and letters, which have been put forth at different times by those interested in the different routes, by way of keeping the people apprized of the fact that *light* was beginning to dawn upon a few men of wealth just in the ratio *as they* thought their local interest along the line was to be affected by the movements and progress of other lines—not in proportion to the vast importance of this particular link in the great system, by which, and from which, *mainly*, this city is to maintain its natural *relatiac* position among the cities of the union.

A want of strength on the interior line, and the opposition of those interested along the river, have been sufficient to prevent the *few*, at each terminus of the line, who *really* desired the road to be built, from making progress, but now that a third party comes forward, after years of "masterly inactivity" for any good to the cause, and show a disposition to force a road through, in connection with a short, but not *thus far* properly constructed road now in use, we find those gentlemen, who are abundantly able to make the road, but who have heretofore been either in opposition, or apparently indifferent to its construction, advocating a line of road directly along the margin of, and in many places actually in, the river for the first *sixty* miles, and then varying from one to three miles, according to circumstances, for the next eighty-five miles, to compete, at all the landings, with the best steamboats in the world, on the best navigation in the country, for the business, instead of through the interior of the counties, where it would accommodate a region, rich in a fertile soil, ample water power, and mineral deposits, yet without easy access to market, even a part of the time. *But* we have always said that we are for a good railroad to Albany, and we have but *one other* point to make in relation to it, and that is, that it be located where it will accommodate the most people at the *lowest* rates, in the shortest period of running time. *Four* to five hours is all we allow them, and this report is based upon an estimate for a road of this character, with rails of 70 lbs. per yard, grades on the first 60 miles under 10, and on the other 85 miles not exceeding 17 feet per mile, and no curve, we believe, with a radius less than 2,000 feet, which will justify a speed of 35 miles an hour. This is as it should be, and for this bold and business like recommendation of the engineer we give him full credit, as we do also for the useful information which he has embodied in his report; and we congratulate the cause upon the accession of so able a member of the profession to its future support. We shall give the report entire, and have something more to say in relation to the relative merits of the two routes.

as our limits will allow, giving at least one or more reports each week when we have them in hand. Should we not do so we deserve to be neglected—which we do not intend to permit—as we shall endeavor not to deserve.

OFFICE OF INTERNAL IMPROVEMENT,
Detroit, December 1st, 1845.

To the Hon., the Legislature of the State of Michigan:

The undersigned, commissioners of internal improvement, in accordance with law, respectfully report. No changes have been made in the engineer corps since our last annual communication, and the former secretary of the board is still continued. During the past year the board have had under contract forty four miles of railroad, the completion of sixteen miles of canal, which also includes the contract for locking Clinton and Kalamazoo canal into Clinton river, and the improvement of the navigable portions of the Flint and St. Joseph rivers. The season has been in most respects propitious for the prosecution of these works, and they have progressed in a satisfactory manner. The railroads would have been completed by this time to Kalamazoo, had there been no difficulty in procuring sawed timber, and some unforeseen delay in the receipt of iron and spike. Notwithstanding these untoward circumstances, some sixteen miles of the road are now finished, in the balance will be completed in six or eight weeks. The whole number of miles in successful operation at that time, will be two hundred and twenty-two, seventy-four of which will have been added within the twenty-two months last past. The receipts from the Central and Southern roads, the only paying works for the last two years are as follows:

Central road.....	\$413,916 41
Southern do.....	123,056 13
Total.....	\$536,992 54

Of this sum there has been received and disbursed under the administration of the present board, within the last nineteen months, four hundred seventy-eight thousand, five hundred eleven dollars and eighty-four cents. Within the time last before mentioned, the stock of the Central and Southern railroads have been increased, two hundred four thousand eight hundred ninety-four dollars and eighty-two cents, to wit:

Central road.....	\$150,365 92
Southern do.....	54,528 90

This is over and above the amount paid for construction in internal improvement and land warrants, which are issued upon certificate of the acting commissioner, and for which amount we respectfully refer the legislature to the report of auditor general.

The present cost and value of the railroads, and furniture of the road and shops, including materials on hand, are as follows:

Central road, as per auditor's books..	\$1,837,046 29
Iron purchase of 1843, '44 and '45.....	103,071 53
Furniture of road and shops, etc.....	114,467 27

\$2,054,585 09

Add ten per cent. interest during construction.....	183,704 63
---	------------

Total cost of road and furniture, etc.. 2,238,289 72

Southern railroad proper.....	\$904,886 03
Tecumseh branch.....	22,000 00
Iron in 1843, '44 and '45.....	37,087 84
Furniture, etc., as above.....	71,128 18

1,035,102 05

Interest as above.....	90,488 60	1,125,590 65
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Total value of both roads.....\$3,363,880 37

In addition to the above sum, the invoice of sundries in the internal improvement office, and instruments, books, maps and furniture in the office of the chief engineer, to the amount of one thousand dollars, should be added.

The destruction of West Lowell bridge, which occurred on the 23d of August, resulted in the following damage and loss:

Total loss of flour.....	\$281 57
Damage to cars.....	825 00

The passenger cars made regular daily trips with but slight interruption, but very great delay and difficulty was experienced in forwarding freight. A large number of men were industriously employed for twenty-six days without interruption, and, until the breach was repaired. The bridges upon the Rouge and Huron have always been to the board a source of lively anxiety, and they have frequently been subjected to the close and careful examination of engineers and mechanics. No prudential measures for keeping them unquestionably safe had been spared, and the failure of the one in question, though disastrous to the character and revenue of the road, is undoubtedly to be classed among those providential occurrences which no human foresight could anticipate or avert. The present bridge is remarkably well planned and built, and the materials used were selected with great care. All the bridges over the streams before named have been thoroughly examined and strengthened, and no fears are entertained of any present danger. Nevertheless, the time is not very distant when they must all be rebuilt.

Since the date of our last annual communication, the car-house at Ann Arbor, with a large amount of private property has been destroyed by fire. This calamity was occasioned, it is supposed, by sparks from the engine finding their way through some crevice in the plastering to the under side of the roof. The original cost of car-house was about six thousand dollars, and the value of the fixtures connected therewith was, as nearly as can be ascertained, about one hundred dollars more. To supply the wants of that station a cheap water-house and wood shed are being built, at an expense of seven hundred and seventy-five dollars, which will answer all the indispensable demands of business for some time.

The increase of business on the line of the Central railroad has made it necessary to construct several new side tracks, especially in the immediate vicinity of mills, and very much to extend some others which were constructed when the road was built. The expenses of this work have been charged in the construction account and been paid for out of the receipts of the road.

The Tecumseh branch of the Southern road, which has been under contract for renewing the superstructure, has been comple-

ted, and the iron is now being laid. At the date of our last annual communication to the legislature, it was supposed that twelve thousand five hundred dollars would fit the road for the iron as far as the village of Tecumseh. This belief was founded upon the presumption that a long and expensive bridge over the valley of the river Raisin could be repaired and made safe for the passage of a train of cars for about seven hundred dollars. Upon a closer examination, however, it was thought to be impracticable to repair it, and the board decided to erect another bridge, and in this way \$5,160 of the appropriation was absorbed, leaving a balance of \$7,340 which has all been expended upon five miles of the road. There is still due the contractors upon this part of the road in land warrants, the sum of \$1,577 49. Most of the road north of the bridge (four miles) has been renewed by the citizens of Tecumseh under the supervision of the engineer having charge of the road, and it is believed to be well done. The timely aid afforded by the patriotic citizens of Tecumseh has enabled the work to go on to completion at least twelve months sooner than it otherwise would. The amount of their expenditures is \$3,739 62. There is about one thousand dollars due for engineering, well-digging and putting in turn round at Tecumseh, which, added to above sums, exhibits a deficit for this work of seven thousand, two hundred and fifty-two dollars in land warrants. The parties to whom this amount is payable rely upon the justice of their claim in enlisting the early action of the legislature, and the board respectfully recommend a provision for its payment. Could this branch have been completed by the 10th of August, its receipts would have more than confirmed the favorable opinion we expressed in our last report. There have been manufactured and forwarded from the two mills at Tecumseh the past autumn, 26,133 barrels of flour. The number of bushels of wheat sent to Monroe and Adrian by teams is not definitely known, but the quantity is exceedingly large. To above add the flour made at Clinton, Manchester, Brooklyn, Jefferson and other points, whose natural outlet would be this road, besides the large amount of merchandize which would have been carried over this road to these flourishing villages. The destination of the flour of the Manchester mills for the last three years has been such that it has paid no revenue to the state. The owner says, "my flour for the last three years has all gone to Toledo, all of which would have gone to Tecumseh had the railroad been completed to that place." This branch will prove to be an important addition to the Southern road, and may always be relied upon for more than the interest upon its cost.

Application will be made to the legislature for an appropriation to repair and iron the Palmyra and Jacksonburg branch of the Southern railroad to the village of Clinton, 5 miles north of Tecumseh, its present termination. This road, when in the hands of the company, was completed and used upon wooden rails as far as Clinton, and of the seventy thousand dollars expended in its construction,

twenty-two thousand were contributed by the citizens of Clinton and vicinity. But this fact, though showing the deep interest felt by the citizens of that place in the completion of the work, and their faith in the profitability of the investment would constitute but a feeble argument in favor of now completing the road in connection with the Southern road, unless from authentic data it could be shown that the business that would be done upon it, would pay the interest of the amount now required to put it in operation.

An estimate was made by Mr. Hart, the engineer upon that branch of the Southern road, at the request, and in behalf of the citizens of Clinton, of the amount necessary to fit the five miles between Clinton and Tecumseh for iron. He reports 6,847 acres of land as heretofore appropriated, sufficient for that purpose. Should the legislature appropriate 8,000 acres of land, and ten thousand dollars for the purchase of iron and spike, it would give \$20,000 as the amount necessary to put the road in operation. Seven per cent interest upon this sum, would produce \$1,400. From statements furnished the board as obtained from the actual business done at the several mills, whose business would be done upon this road, if it were completed to Clinton, we select the following: The Atlas mills made and sent off 8,000 barrels of flour from last harvest up to Dec. 1st. The Manchester mills over 8,000, the Jefferson and Brooklyn mills 4,000 each, and the Novelty mill 3,000, within the same period. Had it not been for the low stage of water, 12,000 barrels at least would have been floured in the time mentioned in each of the mills at Clinton and Manchester, and a like increase at the other mills. Estimating this at one third of the year's business at the above mills, the Clinton and Manchester mills would furnish annually for transportation from Clinton, from 24,000 to 36,000 barrels, say 30,000 barrels each, and the other mills say 30,000. This estimate would give 90,000 barrels of flour yearly, which, at 3 cents a barrel for the five miles, would yield \$2,700, or at 2½ cents, would give \$2,250. The wheat that would probably be sent off in bulk, is estimated at 80,000 bushels, which at one cent a bushel, would give \$800 and estimating all the up freight at say \$1,000 it would make the gross receipts, without a cent for passengers, or for carrying the mail, about \$4,000. After deducting one-half for expenses, and \$600 for over estimate, we still have remaining the seven per cent. interest upon the appropriation asked for. From what cursory personal examination the board have been able to give to the proposed extension, they are satisfied of the correctness of the above data.

In the vain attempt to bring forward all the produce which has been brought to the Central railroad, since the late abundant harvest, 7 locomotive engines, and 96 cars and racks have been running night and day, for three months. The disaster at Lowell, no doubt occasioned some accumulation of flour and grain at the western stations early in Sept. Nevertheless, the character of the road, and

the limited number of our engines and cars must have prevented the prompt removal of freight, had there been no such impediment. The board are fully convinced, that a railroad through the central tier of counties to be used for freight, and the stock of which should be good to its owners, and achieve the object of its construction, must be built in the most substantial manner, and laid with a heavy T or H rail. The best of flat bar roads are of too slight a structure for a heavy freighting business, (such as must ever be done upon the Central road,) as they soon get out of repair and become so uneven, that trains passing rapidly over them, are liable to be, and often are, thrown off the track. The repairs of machinery and cars consequent upon a rough road, even where they are so fortunate as to keep the track, is at least four times greater than the like repairs of machinery and cars running upon the smooth and solid surface of a T rail.

The Lancaster and Harrisburgh railroad company report the annual expenditure for repairs, at 425 dollars per mile, upon the plate rail portion of their road, while the repairs upon that part laid with the T rail was only \$75 per mile. It may be proper to say that this statement which is believed to be correctly made, rests upon recollection, and is not made on reference to the printed report, none being at hand. The Reading railroad, which cost ten millions of dollars, is enabled to make money for the company, although the cars on their return trips are generally empty. The price of freight upon this road is lower than upon any other road in the United States. The cost of transporting coal, including repairs of engines and cars, for 94 miles upon this road, is less than forty cents per ton of 2,240 lbs., and the average load per engine is one hundred cars, laden with three hundred and eighty tons. The average cost of renewals and repairs of freight cars, as appears in the company's report of last year, is 5-9 cents per ton hauled. The average cost per ton on the Central railroad, including repairs of engines and cars, is 92 15-100 cents.

The expenses of the freight and passenger train, including repairs of road and wear and tear of machinery upon the Fitchburg railroad, as appears by the company's report of 1844, is 28 $\frac{1}{10}$ cents per mile, for every mile run by locomotives. It should be remarked that this road was entirely new, and that it was not in operation for the twelve months preceding the report, but a part of that time. Total number of miles run by locomotives, 55,324.

By subjecting the Central railroad to the same test for the fiscal year now closed, it gives the expense of running the road per mile, 61 $\frac{1}{10}$ cents; whole length of the line in operation some portions of the year, is one hundred and twenty-three miles, the number of miles and the period of time following:

Detroit to Ypsilanti.....	30 miles, since Feb., 1838.
Ypsilanti to Ann Arbor.....	10 " " Oct., 1839.
Ann Arbor to Dexter.....	10 " " July, 1840.
Dexter to Jackson.....	30 " " Jan., 1842.
Jackson to Marshall.....	30 " " Aug., 1844.
Marshall to Battle Creek.....	13 " " Nov., 1845.

Total.....123 miles.

By making a just allowance for a greater dilapidation of the Central road, and of the machinery and cars, an account of there having been much longer in use than the before mentioned road, the legislature will readily discover how much greater is the expense of doing business upon a plate road, than upon a T or H railroad.

[To be continued.]

Boston, Its Enlightened Mayor, and New England Railroads.

We find, in the Boston Courier, the address of the mayor, JOSIAH QUINCY, JR., on the organization of the new city government. It is a whole, just what might have been anticipated from a gentleman of his intelligence, enlarged views and honest old fashioned patriotism. It is concise—filling only a column and a half of the Courier—yet it touches upon all the important topics falling under the supervision of the city authorities, showing that he understands his position and duties, and also that he intends to discharge them with fidelity.

After referring, in detail, to matters requiring the attention of the councils, he speaks of Boston as it was a few years ago—as it now is, and of its future. His remarks are so full of truth, and instruction to those who are disposed to learn, that we give them a place in the Journal, in the hope that they may be in this city, like seed sown upon a fertile soil—like the grain of mustard seed putting up a "main stem," or trunk, from which branches put out in every direction and are soon loaded with seed, thus returning to the cultivator a thousand fold for his labor. So is it with Boston, from the construction of numerous railroads, and so will it be with New York when she pursues a similar wise policy. He says that:

"A few years ago, Boston had no facilities for communicating with the interior. And when the west and the north began to develop their vast resources, and become at once the consumers of our manufactures and the producers of our food, our easiest communication with them was through our sister cities.

"To them our manufactured articles went—to them, our merchants resorted—our city was shut out from the advantages of the fertilizing tide that was flowing between the old world and the new, and we were almost stationary, while other cities progressed. But the railroad has changed all this, and giving us a new facility for the transaction of our old business, has created and developed new and incalculable resources, and given perhaps a greater impulse to our city than to any other in the world. Five years ago, Boston had comparatively no back country. Now 900 miles of New England railroads centre here, and as many more within New England are in the process of construction. These render Boston emphatically her capital. And I know of no prouder position for a city, than to be the point that concentrates the energy

and wealth of such a body of industrious, intelligent and virtuous freemen—of Americans, natives of the soil, who promote her prosperity in peace, as readily as their fathers defended her in war.

"Considered in this light alone, the position of Boston is one of present power, with a certainty of rapid advancement. But her connections already stretch far beyond New England—she is on the high road between Europe and the west; and that vast country country has become tributary to her increase. The car that leaves our city this morning, may deposit its merchandise in thirty six hours on the shores of lake Erie, five hundred miles from the place of its departure—from thence inland seas, navigable for vessels of the largest class, stretch away for hundreds of miles along shores fertile for agriculture, or rich in minerals.

"Canals already connect these lakes with the valley of the Mississippi, and with the navigable waters of her, and her tributaries, which, extending 20,000 miles, communicate with 40,000 miles of shores unrivalled in fertility.

"But more rapid modes of communication will this year be opened. The railroad from Cincinnati to Sandusky, built by the aid of citizens of Boston, will bring the Ohio within a journey of three days—enabling the traveler to reach Boston from Cincinnati in twelve hours less time than he can Baltimore, although the latter place is 300 miles the nearest.

"But these are but a small part of the railways that are to increase the prosperity of Boston. There are already in process of construction, roads stretching towards Montreal, Burlington, Ogdensburg—roads branching from Albany will reach Kingston, and extend thence through Canada West—others running from Buffalo to Detroit on both sides of lake Erie, will ere long reach the upper sources of the Mississippi—and the child is now born who will see them terminate at the Pacific. The time may come when the expectation that led Columbus to seek a passage to India from Europe by proceeding west, will be realized, and the direct communication between those points may pass through the city of Boston.

"Such facilities of intercourse, joined to the character and wealth of our population, render the progress of the city a matter of certainty. Occupying the nearest point to Europe, and connected with the north, the west, and the south, by thousands of miles of internal communication, her increase will surpass the most sanguine anticipations of her friends.

"If such are the prospects of our city, how great is the responsibility of those who from time to time are invested with the power of improving and preparing it for the multitudes by whom it will one day be occupied! We regret that our fathers did not anticipate the progress, and lay out thoroughfares and squares that are even now called for by the necessities of the inhabitants. Let us remember that we are the fathers of the generations that will succeed, and that we have not the

apology of being ignorant of the probable destiny of our city.

"The effects of a wise and liberal policy will not be confined to our own limits. Boston "is a city set upon a hill." Go where you will throughout this continent, you will find natives of New England. And you will find them among the most active and influential members of their respective communities. These turn towards the capital of their native section, as to a place whose wealth, whose age, and the character of whose citizens entitle it to the honor, and impose on it the duty of setting an example to its younger sisters.

"Let us then, gentlemen, enter upon the several duties of our stations with the determination to advance the present and future interests of the city of Boston, by proposing to ourselves the highest standard in intellectual, moral and religious training, and by promoting everything that may tend to the physical convenience and comfort of the inhabitants. So shall we contribute to render it delightful for a temporary, and eligible for a permanent abode, and do our part in handing down the blessings we have received, to those who shall come after; and, whatever be the temporary popularity or unpopularity of our measures, have the consolation of having faithfully endeavored to promote the permanent good of the city, and feel in this consciousness a satisfaction, in comparison with which earthly applause is but as the dust of the balance."

The closing paragraph of this address should be printed in *letters of gold, on plates of brass*, and hung in the *private* apartment of every public officer in the land, as well as in the *council rooms, and legislative halls* of our country. Public officers, or individuals who are influenced by the motives and principles here recommended cannot be *very* dangerous citizens, nor wholly deficient in patriotism and love of country; nor entirely devoid of a kind regard for the poor, even though they are not always boasting of what they do not practice—of being mindful of the best interests of the dear people. Boston, under such councils, and with such men to watch its interests, cannot but be prosperous.

The Macon and Western Railroad.—The title to this road has at length been perfected, and the purchase money paid up in cash. The delay that has occurred in the consummation of the contract, has arisen from the very proper desire of all concerned to have such titles passed, that there may be no future contingencies to be provided for.

The new company has completed its organization by the election of directors and officers. The demand for the stock exceeds the supply, and at this time we know of several who are anxious to purchase stock, but are unable to obtain it.

The price of the shares has been fixed to effect these ends—payment of the purchase money, relaying and fully equipping the road with new engines, cars, etc., and realizing a reserved fund of \$150,000.

* * * We have all the best of reasons to congratulate ourselves upon the final consummation of this arrangement. The new proprietors of the road are gentlemen who keep their own counsels, and who sedulously abstain from taxing the credulity of the public by representations of what they are going to do; but this we can say, from their accredited

means and well known enterprise, more will be accomplished than any of us anticipate.

To our enterprising townsman, Mr. Jerry Cowles, all who are acquainted with the particulars of the negotiation are willing to award the credit of having commenced, and by his indomitable energy and perseverance with the co-operation of one or two more of our citizens, successfully consummated the sale of this road to these northern capitalists.

It has come to our knowledge, that the services of Mr. Cowles were requested as a director in the reorganization of the company, but he deferred to others from considerations which are properly appreciated.

We like to see these onward movements, and therefore give place to the foregoing from the Macon Messenger, of 8th January. Those who projected, and were mainly instrumental in carrying through, this movement, deserve the thanks not only of the people of Macon, and along the line of the old Monroe railroad, but also of Savannah, and all who desire to travel this route; and conspicuous among the number stands Mr. Jerry Cowles, of Macon; and we only regret that his name does not appear in the direction. It should be there.

Railroad Meeting.—The railroad meeting at the court house, on Saturday night, December 27th, says the Louisville democrat, was well attended, and the manifestations in favor of proceeding at once to complete the railroad to Lexington were strong and unanimous. After the meeting had been called to order by the chairman, Mr. Guthrie read the report of the committee appointed on Tuesday evening. It consisted of the form of a petition to the legislature, praying the passage of such a charter as will, 1st, authorize the old Lexington and Ohio railroad company to proceed in the work; 2d, provided this company does not within a given time accept of this charter, then that a new company may be formed for the same purpose; and, 3d, in case the state does not deem it expedient to part with that portion of the road now in operation between Frankfort and Lexington, that a company may be formed to construct the road from Frankfort to Louisville.

After the reading of the petition, Mr. W. J. Graves rose and spoke very warmly in favor of the measure; expressing his conviction, that the road would not only yield a large dividend, but be of immense importance to the business of Louisville.

The petition having been adopted; on motion of Mr. Shreve, it was referred back to the same committee, with instructions to have it printed and circulated for signatures; the said committee to report again to the meeting on Saturday evening next at the court house. The meeting then adjourned.

We are gratified to learn that the people of Kentucky are at length moving in this matter. They have delayed quite too long—they should therefore now move with the more spirit, and the greater energy. Nor should they stop with completing a railroad to Louisville. That short road between Louisville and Lexington should be only the first section in the several lines of railroad in Kentucky. Let the prominent men of the state turn their attention to such works rather than to politics. The former will benefit the people—the latter usually debases the individual.

Macon and Western Railroad Company, Georgia.—This company, the purchasers of the Monroe railroad and franchise, was yesterday organized under the amended charter, when the following named gentlemen were elected to manage its concerns:

Daniel Tyler, president; J. G. Forbes, secretary. Directors—Theodore Dehon, of New York; Edward Whitehouse, do.; Rufus H. King, do.; David Henshaw, Massachusetts; A. Boody, do.; Ker Boyce, Charleston; Andrew Low, Jr. Savannah; Charles J. McDonald, Marietta; N. C. Monroe, Macon; Washington Poe, do.; Charles Day, do.

Philadelphia and Trenton Railroad.—We learn, says the United States Gazette of 19th inst., that at the last meeting of the directors of the Philadelphia and Trenton railroad company, it was resolved to relay the road from Bristol to Kensington with a wider

track, and with a heavier rail than is now used upon any road in the country.

We also understand that, desirous of sustaining American manufactures, the contract has been made for the rails with a rolling mill in the vicinity of the road, and that the necessary quantity will probably be furnished during the ensuing spring and summer.

When this road is thus completed, there will be no difficulty in travelling at the rate of thirty miles an hour with perfect safety, if required. The time of passage between the cities has been reduced of late to four hours.

This is as it should be. Let them also lay a double track from Trenton to New Brunswick, and then we may go to Philadelphia in four hours at the most, and not be obliged to back and fill along the canal, out of pure politeness to those whom we expect to meet.

The Iron Trade.—A new anthracite iron furnace, says the Baltimore American, owned by Peter Haldeman, Esq., was put in blast near Columbia, Pa., last week. It is calculated that 80 tons of iron will be turned out at these works each week. The engine of 60 horses power, was built by Mr. John Watchman, of this city, and is said by the Columbia Spy to be one of the best ever made in the United States.

An extensive mine of superior coal, supposed to be the cannon coal, has been discovered near Falling Rock creek, a branch of the Kanawha river, sixteen miles from Charleston, Va., and about one mile from navigation. The Cincinnati Atlas, speaking of the discovery of the vein, says: "It is well situated for distribution to all places below the mouth of the Kanawha, and if it proves to be extensive, and of the quality indicated, it will form a valuable addition to the fuel of the Ohio valley, and greatly contribute to the comforts of the Queen city."

Railroad Items.

The steamer Narragansett, with the mails, says the Tribune of Thursday, 22d, arrived yesterday morning at seven o'clock, from Stonington—the railroads have been freed from the ice which obstructed them on Saturday night.

This speaks well for the energetic management of the Boston and Providence and Stonington roads. We had seldom had a more severe storm in this vicinity and delays might be tolerated now if ever—and we are therefore the more gratified to find that the traveller is not now as formerly, before the birth of railroads, liable to be detained any great length of time even by the most severe falls of snow.

The Danville Railroad.—About fifty thousand dollars' worth of stock of the railroad from Danville to Shamokin, says the Ledger was subscribed at Danville during the three days on which the books were opened. It is stated that the different iron companies at the former place have agreed to furnish the iron for the road, the pay for which they will receive in toll. This being completed, there would be but about 28 miles of road to be made to connect the Pottsville road with the Susquehanna.

We like the spirit of the Danvillers. They will insure the construction of their road by thus leading in the important measure of subscribing for the stock—this will give confidence to others.

Utility of Railroads.—"They advertise Berkshire charcoal," says the Boston Courier, "on a large scale, with storehouses, agencies, etc. It is brought, as we suppose, by railroad, from the extremity of the state, from the rough mountains of Berkshire."

"This mode of sending the forests to market, will be profitable in many other places. The interior can thus convert into cash, what would otherwise be too heavy, with its great bulk, for distant transportation."

This is one only of the numerous important advantages to be derived by large cities, from railroads.—There scarcely an article of necessity to the poor as well as the rich, that will not be furnished of better quality and at cheaper rates than before railroads were introduced.

Philadelphia, Wilmington and Baltimore.—At an election held for directors in the Philadelphia, Wilmington and Baltimore railroad company, says the Ledger, the following named gentlemen were chosen: *Pennsylvania*—Edward C. Dale, M. Brooke Buckley, John A. Brown, A. J. Lewis, C. H. Fisher. *Delaware*—James Rodgers, Geo. Bush, Mahlon Betts, Wm. R. Sellers, Merrill Canby. *Maryland*—J. J. Cohen, Jr., Hugh McEldery, Thomas Kelso, Joseph Coudon, John C. Groome. And at a meeting of the board of directors, the following officers were unanimously elected: Edward C. Dale, president; J. J. Cohen, Jr., vice president; A. Campbell, secretary and treasurer.

TWO LOCOMOTIVE AND MARINE ENGINE BOILER BUILDERS.—Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufacture! and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia.

THE SUBSCRIBERS, SOLE AGENTS
for the sale of
Codorus,
Glendon,
Spring Mill, and
Valley,
Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay, orders for which are promptly supplied.

SAM'L KIMBER, & CO.,
59 North Wharves,
Philadelphia, Pa.

Jan. 14, 1846. [1y4]

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, Civil Engineer,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

2v19 1y

KITE'S PATENT SAFETY BEAM.

MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan he same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

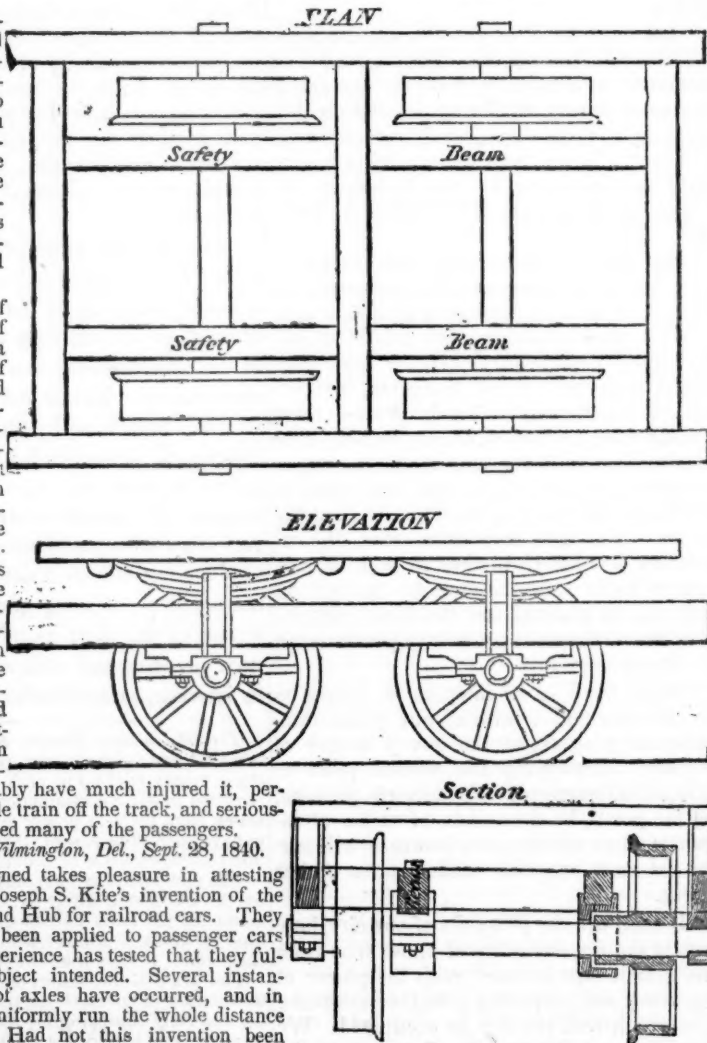
The undersigned takes pleasure in attesting to the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,
GEORGE CRAIG, Superintendent,

A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 71 Hanover st., N. York.

JAMES ELLIOTT, Sup. Motive Power,
W. L. ASHMEAD, Agent.



BOSTON AND MAINE RAILROAD.

Upper Route. Boston to Portland via, Charlestown, Somerville, Malden, Stoneham, South Reading,

Reading, Wilmington, Ballardvale, Andover, North Andover, Bradford, Haverhill, Atkinson, Plaistow, Newtown, Kingston, East Kingston, Exeter, South Newmarket, Newmarket, Durham, Madbury, Dover, Somersworth, South Berwick, North Berwick, Wells, Kennebunk, Saco and Scarborough.

Winter Arrangement, 1845 & 6. On and after Monday, October 20th, 1845, Passenger Trains will run daily, (Sundays excepted,) as follows, viz.

Leave Boston for Portland at 7½ a.m. and 2½ p.m. Leave Boston for Great Falls at 7½ a.m., 2½ p.m. and 3½ p.m. Leave Boston for Haverhill at 7½ a.m., 2½ p.m. and 5 p.m. Leave Portland for Boston at 7½ a.m., and 3 p.m. Leave Great Falls for Boston at 6½ a.m., 9½ a.m. and 4½ p.m. Leave Haverhill for Boston at 6½, 8½, and 11 a.m., and 6½ p.m.

Special Train.—A special train will leave Boston for Andover at 11½ a.m., and Andover for Boston at 3½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above \$50 in value, and that personal Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every \$500 additional value.

October 20, 1845. 43 ly CHAS. MINOT, Super't.

SPRING STEEL FOR LOCOMOTIVES,

Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1½ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent, 15a3 Albany Iron and Nail Works, Troy, N. Y.

A. & G. RALSTON & CO., NO. 2

South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:

180 tons 2½ x ¼ inch Flat Punched Rails, 20 ft. long.

25 " 2½ x ¼ " Flange Iron Rails.

75 " 1 x ¼ " Flat Punched Bars for Drafts

in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 11f

MACHINE WORKS OF ROGERS,

Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR, a45 Paterson, N. J., or 60 Wall street, N. York.

FOR SALE AT A SACRIFICE—A LOCO-

motive Engine, 4 wheels and Tender. Cylinders 10 in. dia. Stroke 16 in. Cylinders inside of smoke box. Weight of engine, with wood and water, about 9 tons. This engine and tender are new, and of the best materials and workmanship. If required, would be altered to a 6 wheeled engine.

Also, 1 20-horse High Pressure Steam Engine. 2 8-horse " " " "

1 Upright Hydraulic Press.

All of which will be sold low, on application to

T. W. & R. C. SMITH.

Founders and Machinists, Alexandria D. C.

May 19th

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

This Road in connection with

the South Carolina Railroad and

the Western and Atlantic Road now forms a continuous line of Railroad of 360 miles from Charleston to Cartersville, two miles west of the Etowa River in Cass County.

Rates of Freight, and Passage from Augusta to Cartersville.

On Boxes of Hats, Bonnets, and Furniture

per foot..... 15 cts.

" Dry goods, shoes, saddlery etc., per. 100 lbs. 85 "

" Sugar, coffee, iron, hardware, etc. " 70 "

" Flour, bacon, mill machinery etc. " 33 "

" Molasses, per hoghead \$9; salt per bus. . 22 "

Passengers \$9 50; children under 13 years of age and servants, half price.

Passengers to Atlanta, head of Ga. Railroad, \$7.

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Augusta.

J. EDGAR THOMPSON,

Ch. Eng. and Gen. Agent.

Augusta, Oct. 21 1845. *44 ly

NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for

some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

G. A. NICOLLS,

Reading, Pa.

ja45

GEORGE VAIL & CO., SPEEDWELL IRON

Works, Morristown, Morris Co., N. J.—Man-

ufacturers of Railroad Machinery; Wrought Iron

Tires, made from the best iron, either hammered or

rolled, from 1½ in. to 2½ in. thick.—bored and turned

outside if required. Railroad Companies wishing to

order, will please give the exact inside diameter,

or circumference, to which they wish the Tires

made, and they may rely upon being served accord-

ing to order, and also punctually, as a large quantity

of the straight bar is kept constantly on hand.—

Crank Axles, made from the best refined iron;

Straight Axles, for Outside Connection Engines;

Wro't. Iron Engine and Truck Frames; Railroad

Jack Screws; Railroad Pumping and Sawing Ma-

chines, to be driven by the Locomotive; Stationary

Steam Engines; Wro't. Iron work for Steamboats,

and Shafting of any size; Grist Mill, Saw Mill and

Paper Mill Machinery; Mill Gearing and Mill

Wright work of all kinds; Steam Saw Mills of sim-

ple and economical construction, and very effective

Iron and Brass Castings of all descriptions.†

ja45ly

TO RAILROAD COMPANIES AND MAN-

ufacturers of railroad Machinery. The subscri-

bers have for sale Am. and English bar iron, of all

sizes; English blister, cast, shear and spring steel;

Juniata rods; car axles, made of double refined iron;

sheet and boiler iron, cut to pattern; tiers for loco-

motive engines, and other railroad carriage wheels,

made from common and double refined B. O. iron;

the latter a very superior article. The tires are

made by Messrs. Baldwin & Whitney, locomotive

engine manufacturers of this city. Orders address-

ed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in

the order, a fit to those wheels is guaranteed, saving

to the purchaser the expense of turning them out in-

side. THOMAS & EDMUND GEORGE,

ja45 N. E. cor. 12th and Market sts., Philad., Pa.

NORWICH AND WORCESTER RAIL-

Road. On and after May 22, 1845, Trains

will leave as follows, viz:—

Accommodation Trains, daily,

except Sunday. Leave Norwich, at 6 a.m., and 4½

p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

The morning train from Norwich, and the

morning and evening trains from Worcester, con-

nect with the Boston, Western, and Hartford and

Springfield railroads.

New York Train, via Steamboat. Leaves Nor-

wich for Worcester and Boston, every morning ex-

cept Monday, upon the arrival of the boat from

New York, about 2 a.m. Leaves Worcester for

Norwich and New York, at 5½ p.m., daily, except

Sunday.

New York Train, via Long Island Railroad.—

Leaves Norwich about 3 p.m., for Worcester and

Boston, daily, except Sunday. Leaves Worcester

for Norwich and New York, at 7½ a.m., daily, ex-

cept Sunday, and arrives in Norwich at 9½

Freight Trains. Daily, except Sunday.

Fares are less when paid for Tickets, than

when paid in the cars.

EMERSON FOOTE,

Superintendent.

32 ly

LAWRENCE'S ROSENDALE HYDRA-

ulic Cement. This cement is warranted equal

to any manufactured in this country, and has been

pronounced superior to Francis' "Roman." Its

value for Aqueducts, Locks, Bridges, Floods and

all Masonry exposed to dampness, is well known,

as it sets immediately under water, and increases in

solidity for years.

For sale in lots to suit purchasers, in tight paper-

ed barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

Orders for the above will be received and

promptly attended to at this office. 32 ly

WESTERN AND ATLANTIC RAIL-

road. The Western and Atlantic Rail-

road is now in operation to Ma-

rietta, and will be opened to Car-

tersville, in Cass county, on the 20th of October—

and to Coosa Depot, (formerly known as Borough's,) on the 20th of November.

The passenger train will continue, as at present

to connect daily (Sundays excepted) with the train

from Augusta, and the stage from Griffin.

CHAS. F. M. GARNETT,

Chief Engineer.

43

LITTLE MIAMI RAILROAD. — DIS-

tance 65½ Miles. Fare, \$1 50. From 1st

November to 1st March Passen-

ger Trains leave Cincinnati for

Xenia at 11 o'clock, A.M.

Returning, leaves Xenia at 8½ o'clock, A.M.

Freight Trains run daily, Sundays excepted.

At Xenia, Passenger Trains connect with dai-

ly lines of stages to Columbus, Wheeling, Cleve-

land and Sandusky city.

W. H. CLEMENT,

Supt. and Engineer.

1y 1

RAILROAD IRON.—THE "MONTGOMERY"

Iron Company, Danville, Pa., is prepared

to execute orders for the heavy Rail Bars of any

pattern now in use, in this country or in Europe,

and equal in every respect in point of quality. Ap-

ply to MURDOCK, LEAVITT & CO.,

Agents.

Corner of Cedar and Greenwich Sts. 43 ly

C. J. F. BINNEY,

GENERAL COMMISSION MERCHANT

and Agent for Coal, and also Iron Manufac-

tures, etc.

No. 1 CITY WHARF, Boston.

Advances made on Consignments.

Refer to Amos Binney, Boston.

Grant & Stone, } Philadelphia.

Brown, Earl & Erringer, }

Weld & Seaver, Baltimore.

December 8, 1845. 1m 50

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JOURNAL for sale at the office, No. 23

Chambers street.

